

AMPLIFIER POWER CONTROL CIRCUIT

Stephen B. Bachhuber

Thomas R. Apel

Robert E. Knapp

ABSTRACT

A sense transistor is placed in a current path between a reference voltage source and ground. The base terminal of the sense transistor is coupled to the base terminal of an amplifying transistor. Thus, current in the sense transistor corresponds to signal power output by the amplifying transistor. The sense current causes a sense voltage at the collector terminal of the sense transistor. This sense voltage is applied to one input of an error amplifier. The other error amplifier input receives a power control voltage. The error amplifier output is routed back to the base terminal of the amplifying transistor in a negative feedback loop, thereby keeping the power of the signal output by the amplifying transistor at a constant level. In some embodiments the error amplifier output is made independent of changes in the reference voltage. Multiple pairs of corresponding amplifying and sense transistors can be used.